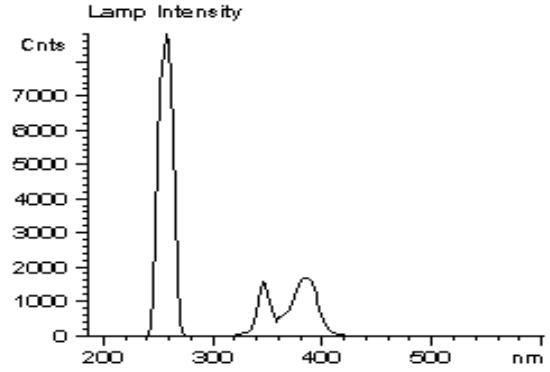
Installing the detector filter assembly (G1600-62700)

The detector filter transmits light of a defined wavelength range. Figure 1 shows a typical transmission spectrum. Maximum transmission is between 256–266 nm.

Figure 1 **Cut-off of the filter**



The filter kit (part number G1600-62700) for gel-filled capillaries contains:

- filter assembly (part number G1600-62701), and
- filter tool (part number G1600-03801).

CAUTION

Do not touch the surface of the filter or any other optical parts. Store the filter or other optical parts in the shipping container. Fingerprints may lead to baseline drifts and may also increase baseline noise of detector response.

Parts required:

- 12 mm hexagonal socket screwdriver (included in start-up kit),
- Pozidriv screwdriver (included in start-up kit), and
- pair of tweezers.

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Installing the filter

Before you install the filter, do the following:

1 Select the Detector icon in the CE Diagram screen.

2 Select Lamp Off from the menu to switch the lamp off.

3 Select Maintenance from the Instrument menu to lower all lifts.

4 Select Exit from the File menu to exit the Agilent ChemStation. Exit both the online and offline copy (if offline was also activated).

5 Turn off line power of the Agilent CE instrument.

6 Disconnect the line power cord from the Agilent CE instrument.

Removing the Detector Cover

1 Open the top cover.

2 Remove the capillary cassette.

WARNING **Make sure you have disconnected the line power cord of the Agilent CE instrument before you proceed.**

3 Take off the detector cover ① by opening the two push turn locks ②. To open them press them down and turn them counterclockwise, see Figure 2.

Figure 2 **Push turn locks securing detector cover**

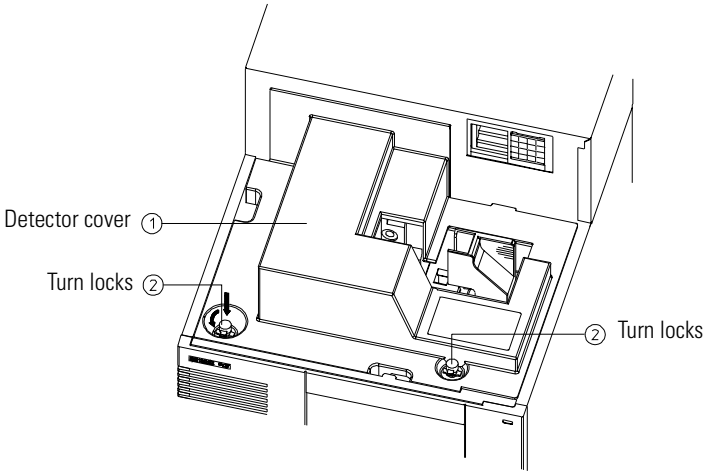
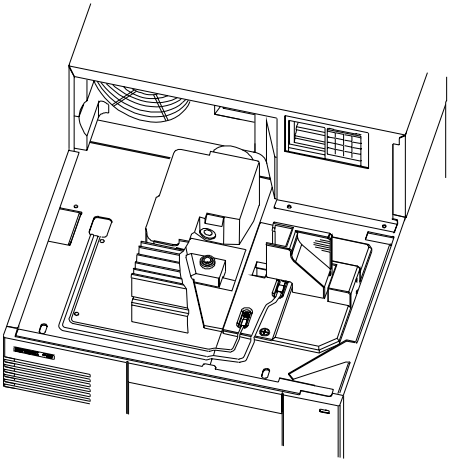


Figure 3 **After removing the detector cover**

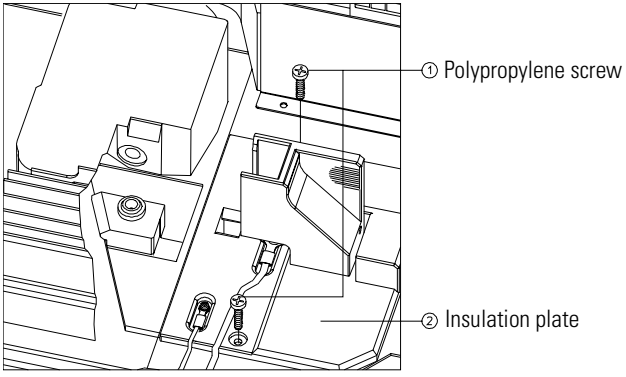


WARNING **If the Agilent CE Instrument has been in use, the lamp housing can be very hot. Avoid touching the lamp housing.**

Removing the insulation plate

1 Use a Pozidriv screwdriver to remove the two polypropylene screws ① that secure the insulation plate ②, see Figure 4.

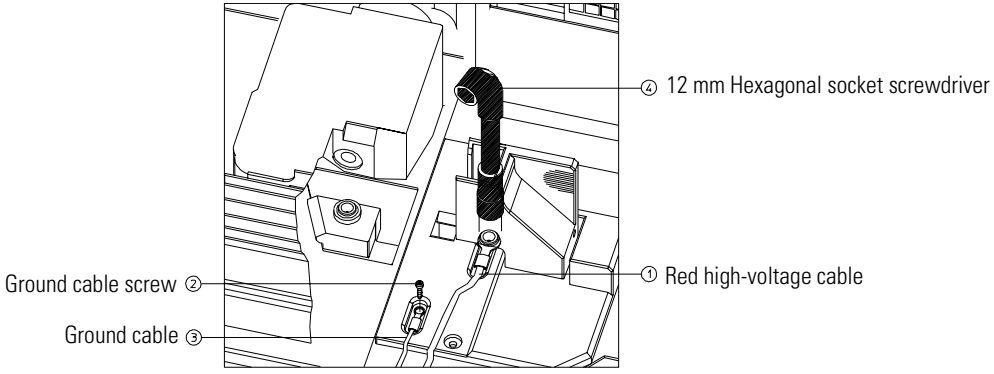
Figure 4 **Removing the insulation plate securing screws**



2 Use a Pozidriv screwdriver to remove the screw ② which holds the blue ground cable ③, see Figure 5.

3 Use the 12 mm hexagonal socket screwdriver ④ to unscrew the inlet electrode ①, see Figure 5.

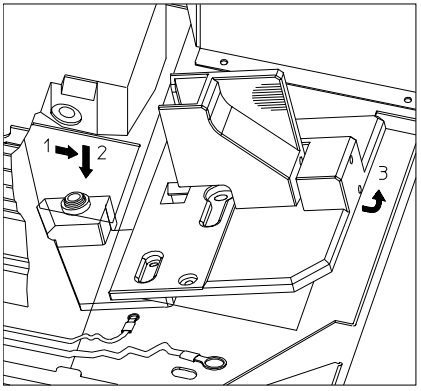
Figure 5 **Removing the electrode**



4 Carefully lift the red high voltage cable ①. The inlet electrode will come out.

5 Slowly slide the insulation plate to the right ①, lift it up ②,③ and remove it, ensuring that the outlet electrode does not hit the foam of the tray cooling or the lift station, see Figure 6.

Figure 6 **Removing the insulation plate**

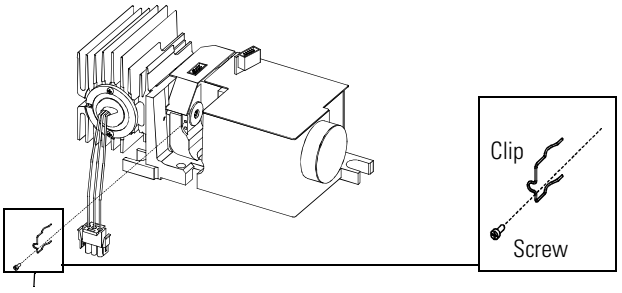


Removing the standard lens holder assembly

1 Mark the position of the lens holder assembly with a color pen. If you subsequently have to reinstall the lens holder assembly, ensure that it is rotated to the original position.

NOTE This is to avoid loss in light throughput.

Figure 7 **Optical unit**



2 Remove the screw which secures the lens holder, from the detector housing using the Pozidriv screwdriver.

3 Note the orientation of the spring which holds the lens assembly and pull it out from the detector housing. It may be necessary to use a pair of tweezers.

4 Remove the lens assembly and store it in the filter shipping container.

5 Take the filter tool and slide it in the groves of the filter assembly, see Figure 8.

Figure 8 **Tool holding the filter**

6 Insert the filter assembly with the help of the tool. Take care that the filter is seated correctly.

7 Reinsert the spring, taking care that the spring is fitted in the correct way.

8 Secure the spring with the screw.

9 Reassemble the instrument.

Checking the proper function of the filter

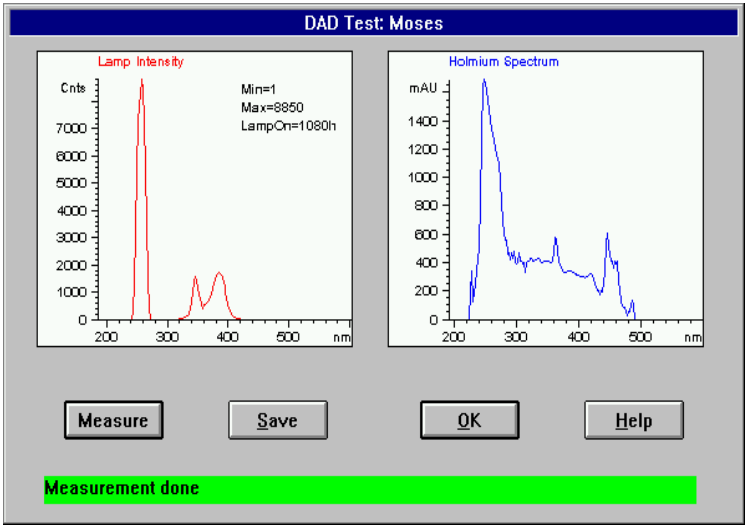
Restart the instrument and check the proper function of the filter as follows.

1 Install the red alignment interface (G1600-60230) without the capillary into the cassette.

2 The detector lamp should be switched on for one hour, to allow stabilisation, before proceding with the DAD Test. Select More DAD followed by DAD Test from the Instrument menu.

3 Start the DAD test with Measure. If the filter is correctly installed the intensity curve and holmium spectra curve must look like the typical curve in Figure 9.

Figure 9 **DAD test with filter installed**



Tips and Hints

- For operation set the wavelength in a range from 256 nm to 266 nm, for example:

  sample wavelength 262 nm and bandwidth 2nm,
  sample wavelength 262 nm and bandwidth 4nm, or
  sample wavelength 262 nm and bandwidth 6nm.

- A reference wavelength is not recommended. If you have to use it, choose 370 nm with bandwidth 40 nm.

- Useful parts, see Figure 1:

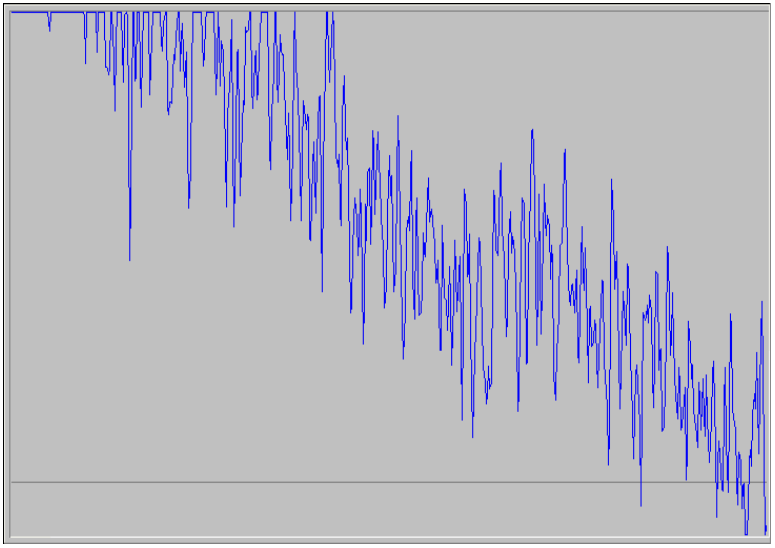
  Screw (part number 0515-1508).

  Spring clip (part number G1600-21200).

What can happen if you work in the low UV range with the filter installed

Note that with the filter installed, only a limited wavelength range can be used. A signal recorded outside this range will be extremely noisy and even no peaks are shown.

Figure 10 **Signal at 200 nm with filter installed (attenuation 3)**



G1600-90107

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Printed in Germany Edition 02/00
Part No. G1600-90107